IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Applicants:	Christian Koeniger	§	Art Unit:	2855
Serial No.:	10/520,960	§	Conf. No.:	4786
Filed:	February 3, 2006	§	Examiner:	Mirellys Jagan
Title:	Subsea And Landing String Distributed Temperature Sensor System	§	Docket No.	101.0005US/PCT (SHL.0308US)

Mail Stop **Appeal Brief-Patents**
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

TABLE OF CONTENTS

REAL PARTY IN INTEREST

The real party in interest is the assignee Schlumberger Technology Corporation.

RELATED APPEALS AND INTERFERENCES

There are no related appeals and interferences.

STATUS OF CLAIMS

The application was originally filed with claims 1-55. During prosecution of the application, claims 56-60 were added; and claims 6-7, 11-16, 22-27, 29, 32-35, 37-56 and 58 were cancelled. Claims 1-5, 8-10, 17, 28, 30, 31, 36, 57, 59 and 60 have been finally rejected under § 103; and objections have been made to claims 18-21 as being dependent upon a rejected base claim but have been indicated as being allowable if rewritten in independent form. Claims 1, 8, 9, 10, 17, 28 and 60 are the subject of this appeal. The § 103 rejections of claims 2-6, 30, 31, 36, 57 and 69 are not being appealed.

STATUS OF AMENDMENTS

All amendments have been entered.

SUMMARY OF CLAIMED SUBJECT MATTER

At this point, no issue has been raised that would suggest that the words in the claims have any meaning other than their ordinary meanings. Nothing in this section should be taken as an indication that any claim term has a meaning other than its ordinary meaning.

The system of independent claim 1 includes a riser that extends from a platform adjacent an ocean surface towards an ocean bottom (riser 14, Fig. 1; Specification, ll. 29-30, p. 3); a landing string that extends within the riser from the platform towards the ocean bottom (landing string 18, Fig. 1; Specification, ll. 30-31, p. 3); and a line that extends along at least part of a length of the landing string and including a distributed sensor system (line 34, Fig. 2; Specification, ll. 7-10, p. 5). The landing string extends in an interval within the riser from the platform toward the ocean bottom, and the distributed sensor system is adapted to sense a parameter at various points along the interval (Fig. 2; Specification, ll. 7-15, p. 3).

The method of independent claim 28 includes deploying a landing string within a riser, where the landing string and riser extend from a platform on an ocean surface towards an ocean bottom (Fig. 1; Specification, ll. 26-31, p. 3); deploying a line along at least part of a length of the landing string, where the line includes a distributed sensor system (Fig. 2; Specification, ll. 7-15, p. 5); and measuring the parameter at the various measurement points along the length of the landing string (Fig. 2; Specification, ll. 10-15, p. 5). Claim 28 recites that the act of deploying the line along at least part of a length of the landing string includes deploying the line along an interval of the landing string extending above the ocean bottom such that the distributed sensor system is adapted to sense a parameter at various points above the ocean bottom (Fig. 2; Specification, ll. 10-15, p. 5).

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. **Whether Claims 1, 8, 9, 10, 17, 28 and 60 Are Rendered Obvious under 35 U.S.C. § 103(a) As Being Unpatentable over U.S. Patent Application Publication No. US 2002/0189806 (Davidson) in View of U.S. Patent No. 6,640,900 (Smith)?**

1. **Whether Claim 1 Is Rendered Obvious under 35 U.S.C. § 103(a) As Being Unpatentable over U.S. Patent Application Publication No. US 2002/0189806 (Davidson) in View of U.S. Patent No. 6,640,900 (Smith)?**

2. **Whether Claim 8 Is Rendered Obvious under 35 U.S.C. § 103(a) As Being Unpatentable over U.S. Patent Application Publication No. US 2002/0189806 (Davidson) in View of U.S. Patent No. 6,640,900 (Smith)?**

3. **Whether Claim 9 Is Rendered Obvious under 35 U.S.C. § 103(a) As Being Unpatentable over U.S. Patent Application Publication No. US 2002/0189806 (Davidson) in View of U.S. Patent No. 6,640,900 (Smith)?**

4. **Whether Claim 10 Is Rendered Obvious under 35 U.S.C. § 103(a) As Being Unpatentable over U.S. Patent Application Publication No. US 2002/0189806 (Davidson) in View of U.S. Patent No. 6,640,900 (Smith)?**

5. **Whether Claim 17 Is Rendered Obvious under 35 U.S.C. § 103(a) As Being Unpatentable over U.S. Patent Application Publication No. US 2002/0189806 (Davidson) in View of U.S. Patent No. 6,640,900 (Smith)?**

6. **Whether Claim 28 Is Rendered Obvious under 35 U.S.C. § 103(a) As Being Unpatentable over U.S. Patent Application Publication No. US 2002/0189806 (Davidson) in View of U.S. Patent No. 6,640,900 (Smith)?**

7. **Whether Claim 60 Is Rendered Obvious under 35 U.S.C. § 103(a) As Being Unpatentable over U.S. Patent Application Publication No. US 2002/0189806 (Davidson) in View of U.S. Patent No. 6,640,900 (Smith)?**

ARGUMENT

A. Whether Claims 1, 8, 9, 10, 17, 28 and 60 Are Rendered Obvious under 35 U.S.C. § 103(a) As Being Unpatentable over U.S. Patent Application Publication No. US 2002/0189806 (Davidson) in View of U.S. Patent No. 6,640,900 (Smith)?

1. Whether Claim 1 Is Rendered Obvious under 35 U.S.C. § 103(a) As Being Unpatentable over U.S. Patent Application Publication No. US 2002/0189806 (Davidson) in View of U.S. Patent No. 6,640,900 (Smith)?

The system of independent claim 1 includes a riser that extends from a platform adjacent an ocean surface towards an ocean bottom; a landing string that extends within the riser from the platform towards the ocean bottom; and a line that extends along at least part of a length of the landing string and including a distributed sensor system. The landing string extends in an interval within the riser from the platform toward the ocean bottom, and the distributed sensor system is adapted to sense a parameter at various points along the interval.

Claim 1 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. US 2002/0189806 (hereinafter called "Davidson") in view of U.S. Patent No. 6,640,900 (hereinafter called "Smith"). In general, Davidson discloses using at least one sensor at the end of a string to monitor deployment of the string into a subsea well; and in general, Smith discloses the use of an alternative path conduit outside of the casing string to monitor conditions inside a subsea well.

To make a determination under 35 U.S.C. § 103, several basic factual inquiries must be performed, including determining the scope and content of the prior art, and ascertaining the differences between the prior art and the claims at issue. *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 U.S.P.Q. 459 (1965). Moreover, as the U.S. Supreme Court held, it is important to identify a reason that would have prompted a person of ordinary skill in the art to combine reference teachings in the manner that the claimed invention does. *KSR International Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741, 82 U.S.P.Q.2d 1385 (2007).

In the rejection of claim 1, the Final Office Action relies on Davidson for its purported disclosure of the claimed riser and landing string; and the Final Office Action relies on Smith for its purported disclosure of the elaimed line and distributed temperature sensor. Final Office Action, pp. 3-5. The Final Office Action contends that it would have been purportedly obvious to the skilled artisan in possession of Davidson and Smith to replace the temperature sensor of

Davidson's landing string 22 with Smith's optical fiber for purposes of deriving the claimed invention. Final Office Action, p.5. In this manner, the Final Office Action states the following:

> Referring to claims 1 and 28, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system and method of Davidson by using an optical sensor system as taught by Smith in order to obtain temperature measurements along the length of the string, which is disclosed as being desirable by Davidson.

Final Office Action, p. 5.

The § 103 rejection of claim 1 is deficient for at least the reason that the Final Office Action errs in several of the factual findings. For example, the Final Office Action contends that Davidson discloses the desirability of obtaining temperature measurements along the length of a landing string. *See, for example*, Office Action, p. 5. Contrary to such a disclosure, however, Davidson discloses a single temperature sensor near the end of its landing string 22 and fails to teach or render obvious obtaining temperature measurements along the length of the landing string 22, as contended by the Examiner. In this manner, although Davidson teaches multiple sensors to aid in monitoring landing of the landing string, Davidson only discloses a single temperature sensor. More specifically, Davidson discloses sensors 64 that are located near the lower end of the landing string 22 (Davidson, para. no. 39) for purposes of allowing "better monitoring and management of the deployment of subsea completion equipment." The sensors 64 include an accelerometer to monitor a vibration of the landing string 22 during its running or retrieval (Davidson, para. no. 0039); an orientation sensor 64a to indicate the orientation of the string 22 with respect to a marine riser string 24 (Davidson, para. no. 0041); a video camera sensor 64c (Davidson, para. no. 0045); and a sensor 64p to monitor the condition of hydraulic fluid (Davidson, para. no. 0059).

Davidson further discloses a production tubing 74 that is part of the landing string 22. This production tubing 74 includes sensors 64j; and Davidson states, "the sensors 64j may include a temperature sensor." Davidson, para. no. 63. Davidson fails to, however, disclose or render obvious measuring a distributed temperature, measuring a temperature along the length of a landing string, or why measuring such a distributed temperature along the claimed interval (between the platform and the ocean bottom) of the landing string would be desirable, as contended in the Final Office Action.

Moreover, Davidson discloses that the temperature sensor 64j is contained in a production tubing 74 section of the landing string 22. Thus, the skilled artisan would glean from Davidson that the temperature sensor 64j is used for purposes of monitoring a temperature inside the well, not measuring a temperature in the claimed interval between the platform and the ocean bottom. In this aspect, Davidson's disclosure is similar to Smith's disclosure and as such, fails to cure Smith's deficiencies. More specifically, similar to Davidson, Smith discloses a sensor to monitor a temperature near production tubing inside the well. However, the skilled artisan would not glean from Smith the concept of measuring a distributed temperature along a landing string, as Smith only contemplates measuring a distributed temperature within the confines of the subsea well.

In this manner, Smith discloses a specific way to install an optical fiber in a well: the optical fiber is installed in Smith's production tubing 8 after the production tubing 8 is installed in the subsea well. More specifically, Smith discloses attaching a tubing string 11 to the end of a production tubing 8 (Smith, 6:1-4), and after the tubing string 11 is in position in the well, installing the optical fiber in the tubing string 11 (Smith, 7:37-47).

Therefore, neither Smith nor Davidson, whether considered alone or in combination, discloses or renders obvious a distributed sensor system that is adapted to sense a parameter at various points along an interval from a platform toward an oeean bottom.

The Final Office Action focuses on Fig. 3 of Smith and contends that the identifier "D" in Fig. 3 references an optical fiber. Final Office Action, p. 5. However, the "D" label depicted in Fig. 3 merely refers to the relatively large diameter (labeled by "D" in Fig. 3) of the conduit 16. *See, for example,* Smith, 8:27-30. Smith explains that due to this relatively large diameter, tools may be purportedly easily pumped down the annulus of conduit 16. Smith, 8:30-34. Smith fails to address the optical fiber or apparently even illustrate it in Fig. 3.

Instead of discussing or illustrating the optical fiber in connection with Fig. 3, Smith discloses deploying an optical fiber downhole in the wellbore beneath a wellhead 9. In this manner, Smith discloses that the optical fiber 17 may be installed in its well as follows:

> Optical fibers may be inserted in the alternative path conduit by connecting a pump to the provided port on the instrument pod 17. Silicon gel or another fluid can be pumped into the annulus of the alternative path conduit and fiber optic cabling is fed into the pumping silicon gel (or other fluid) which carries the line into the well bore due to the frictional force of the silicon (or other fluid) against the fiber optic line. Upon reaching total depth, the pumped fiber is fully deployed in the wellbore. Fluids that may be used for deployment include liquids such as water as well as gases, such as air or nitrogen.

Smith, 7:38-48. The skilled artisan in possession of Smith would not have been apprised, however, of an arrangement in which a distributed sensor system senses a parameter at various points along an interval between an ocean bottom and a platform. Instead, the skilled artisan in possession of Smith would only have gleaned using an optical fiber downhole in the well beneath the sea floor.

Therefore, even assuming, for purposes of argument, that Davidson and Smith may be hypothetically combined, one of skill in the art would have been led to pump Smith's optical fiber into a conduit near Davidson's production string after Davidson's production string is deployed in the well. Such deployment, however, does not disclose or render claim 1 obvious, as the optical fiber would be in the well, and not adapted to sense a parameter in the claimed interval. Furthermore, the Final Office Action fails to provide a plausible reason to explain why one of skill in the art in possession of Davidson and Smith would have otherwise derived deploying Smith's optical fiber when Davidson's production string is located above the subsea wellhead, as implied in the § 103 rejection of claim 1.

Thus, in view of the foregoing, the § 103 rejection of claim 1 is in error and should be reversed.

2. Whether Claim 8 Is Rendered Obvious under 35 U.S.C. § 103(a) As Being Unpatentable over U.S. Patent Application Publication No. US 2002/0189806 (Davidson) in View of U.S. Patent No. 6,640,900 (Smith)?

Claim 8 depends from claim 1 and recites that the line is mechanically attached to the landing string.

Claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Davidson in view of Smith. Claim 8 overcomes the § 103 rejection for at least the same reasons as claim 1, as discussed above. Claim 8 is patentable for at least the additional, independent reasons that are set forth below.

In the § 103(a) rejection of claim 8, the Final Office Action contends that the limitations of claim 8 are purportedly disclosed by Smith's disclosure of the tubing string 11 being purportedly mechanically attached to the production tubing string 8. Final Office Action, p. 5.

Applicant respectfully submits that the § 103 rejection of claim 8 is deficient for at least the reason that the tubing string 11 (see Fig. 3 of Smith) does not contain a line that extends

along at least part of a length of a landing string, includes a distributed sensor and is mechanically attached to the landing string. In this regard, Smith merely discloses that the tubing string 11 is present in the well. Smith fails to disclose a landing string or the mechanical attachment of the claimed line to such a landing string. Instead, Smith states the following:

> Preferred embodiments of the present invention teaches include the insertion of at least one parallel tubing string 11 of a smaller diameter disposed parallel, but exterior, to the production string 8, forming an alternative path through the well head and into the well.

Smith, 5:60-64.

Therefore, Smith neither discloses nor renders obvious mechanically attaching a line that contains a distributed sensor system that is adapted to sense a parameter at various points along an interval from a platform to an ocean bottom to a landing string; and the Examiner fails to set forth any plausible reason to explain why the skilled artisan in possession of Smith and Davidson would have otherwise derived these missing claim limitations.

Thus, for at least the foregoing reasons, the § 103 rejection of claim 8 is in error and should be reversed.

3. Whether Claim 9 Is Rendered Obvious under 35 U.S.C. § 103(a) As Being Unpatentable over U.S. Patent Application Publication No. US 2002/0189806 (Davidson) in View of U.S. Patent No. 6,640,900 (Smith)?

Claim 9 depends from claim 1 and recites a conduit located proximate the landing string and recites that the fiber optic line is located within the conduit.

Claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Davidson in view of Smith. Claim 9 overcomes the § 103 rejection for at least the same reasons as claim 1, as discussed above. Claim 9 is patentable for at least the additional, independent reasons that are set forth below.

In the § 103 rejection of claim 9, the Examiner relies on Smith's purported disclosure of a fiber optic line D being located within a tubing string 11. Final Office Action, p. 5. However, Applicant respectfully submits that the Examiner's factual finding is in error. More specifically, the purported optical fiber "D" referred to by the Examiner is instead a diameter D. *See, for example*, Smith, 8:27-30. Moreover, the Examiner fails to cite any disclosure of Smith, which teaches or renders obvious a conduit located proximate a landing string, such that a fiber optic line is located within the conduit. Instead, Smith clearly teaches that the tubing string 11 is

exterior to the production string 8. *See, for example*, Smith, 5:60-64. Thus, Smith neither teaches nor renders obvious the limitations set forth in claim 9, and the Examiner fails to set forth any plausible reason to explain why the skilled artisan in possession of Smith and Davidson would have otherwise derived the missing claim limitations.

Thus, for at least the foregoing reasons, the § 103 rejection of claim 9 is in error and should be reversed.

4. Whether Claim 10 Is Rendered Obvious under 35 U.S.C. § 103(a) As Being Unpatentable over U.S. Patent Application Publication No. US 2002/0189806 (Davidson) in View of U.S. Patent No. 6,640,900 (Smith)?

Claim 10 depends from claim 9 and recites that the conduit is within a control umbilical deployed as part of the landing string.

Claim 10 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Davidson in view of Smith. Claim 10 overcomes the § 103 rejection for at least the same reasons as claims 1 and 9, as discussed above. Claim 10 is patentable for at least the additional, independent reasons that are set forth below.

The § 103 rejection of claim 10 is deficient for at least the reason that Final Office Action errs in the factual findings made with respect to this claim. In this regard, the Final Office Action states that Smith purportedly discloses a control umbilical deployed as part of the landing string. Office Action, p. 5. In particular, the Office Action contends that tubing string 11 of Smith is the purported umbilical. Final Office Action, p. 5. However, as discussed above, Smith fails to address how the tubing string 11 is deployed in the well. Furthermore, there is no discussion in Smith regarding deploying the tubing string 11 with a landing string. Moreover, the Final Office Action fails to set forth any plausible reason to explain why the skilled artisan in possession of Smith and Davidson would have otherwise derived the missing claim limitations.

Thus, for at least the foregoing reasons, the § 103 rejection of claim 10 is in error and should be reversed.

5. Whether Claim 17 Is Rendered Obvious under 35 U.S.C. § 103(a) As Being Unpatentable over U.S. Patent Application Publication No. US 2002/0189806 (Davidson) in View of U.S. Patent No. 6,640,900 (Smith)?

Claim 17 depends from claim 1 and recites that the landing string is landed on a landing shoulder located on pressure control equipment, and claim 17 recites that the line extends below the landing shoulder. Thus, for claim 17, the line extends both above and below the landing shoulder.

Claim 17 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Davidson in view of Smith. Claim 17 overcomes the § 103 rejection for at least the same reasons as claim 1, as discussed above. Claim 17 is patentable for at least the additional, independent reasons that are set forth below.

In the § 103 rejection of claim 17, the Final Office Action concludes, "the line extends below the landing shoulder." Final Office Action, p. 5. However, the Final Office Action fails to explain why the skilled artisan in possession of Davidson and Smith would have derived a line containing a distributed temperature system that extends in the claimed interval above the landing shoulder and below the landing shoulder. In this regard, Davidson is directed to guiding a landing string into position such that the landing string lands on a landing shoulder. The Examiner fails to explain why the skilled artisan would, in view of Davidson and Smith, have derived a system in which a line containing a distributed sensor system extends both above and below a landing shoulder. At a minimum, a *prima facie* case of obviousness requires the Examiner to identify a plausible reason why the skilled artisan would have combined references in the same manner that the claimed invention does. *KSR International Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741, 82 U.S.P.Q.2d 1385 (2007).

Thus, for at least the foregoing reasons, the § 103 rejection of claim 17 is in error and should be reversed.

6. Whether Claim 28 Is Rendered Obvious under 35 U.S.C. § 103(a) As Being Unpatentable over U.S. Patent Application Publication No. US 2002/0189806 (Davidson) in View of U.S. Patent No. 6,640,900 (Smith)?

The method of independent claim 28 includes deploying a landing string within a riser, where the landing string and riser extend from a platform on an ocean surface towards an ocean bottom; deploying a line along at least part of a length of the landing string, where the line includes a distributed sensor system; and measuring the parameter at the various measurement points along the length of the landing string. Claim 28 recites that the act of deploying the line along at least part of a length of the landing string ineludes deploying the line along an interval

of the landing string extending above the ocean bottom such that the distributed sensor system is adapted to sense a parameter at various points above the ocean bottom.

Independent claim 28 stands rejeeted under 35 U.S.C. § 103(a) as being unpatentable over Davidson in view of Smith.

Independent claim 28 overcomes the § 103 rejection for reasons that are similar to those set forth above in the discussion of claim 1. In this regard, the method of claim 28 recites deploying a landing string that is deployed within a riser, where the landing string and riser extend from a platform on the ocean surface towards an ocean bottom; and deploying a line along at least part of a length of the landing string, where this line includes a distributed sensor system. Claim 28 recites that the distributed sensor system is adapted to sense a parameter at various points above the ocean bottom. Even assuming, for purposes of argument, that the hypothetical combination of Smith and Davidson discloses ultimately deploying Smith's optical fiber in Davidson's production string, the Office Action fails to set forth a plausible reason to explain why one of skill in the art in possession of Smith and Davidson would have derived deploying a line such that a distributed sensor system is adapted to sense a parameter at various points above the ocean bottom. Therefore, a *prima facie* case of obviousness has not been set forth claim 28.

Thus, for at least the foregoing reasons, the § 103 rejection of claim 28 is in error and should be reversed.

7. Whether Claim 60 Is Rendered Obvious under 35 U.S.C. § 103(a) As Being Unpatentable over U.S. Patent Application Publication No. US 2002/0189806 (Davidson) in View of U.S. Patent No. 6,640,900 (Smith)?

Claim 60 depends from claim 1 and recites that the line, which contains the distributed sensor system is attached to the riser.

Claim 60 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Davidson in view of Smith. Claim 60 overcomes the § 103 rejection for at least the same reasons as claim 1, as discussed above. Claim 60 is patentable for at least the additional, independent reasons that are set forth below.

In the § 103 rejection of claim 60, the Final Office Action states the following:

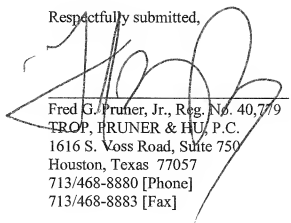
> Referring to claim 60, in using the optical sensor system as taught by Smith in the riser of the system of Davidson as stated above, the line will be attached to the riser.

Final Office Action, p. 5. The Examiner fails to, however, explain why the "line" (alleged to be the tubing string 11 by the Examiner) of Smith would be attached to Davidson's riser. Such a limitation is not inherent in Davidson or Smith, as for a claim limitation to be inherent, the claim limitation may necessarily flow from the reference. *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (holding that in order for a missing claim limitation to be inherently disclosed in a reference, the missing claim limitation must necessarily flow from the teachings of the reference). The Examiner fails to meet this burden, as the Final Office Action fails to set forth any reasoning or evidence probative of why a distributed sensor system must be attached to a riser. Instead, Smith discloses in lines 37-48 of column 7 installing an optical fiber by pumping the fiber downhole into the tubing string 11 but fails to set forth any reason why the skilled artisan would glean attaching the line to a riser.

Thus, for at least the foregoing reasons, the § 103 rejection of claim 60 is in error and should be reversed.

Applicant respectfully requests that each of the final rejections be reversed and that the claims subject to this Appeal be allowed to issue.

Respectfully submitted,



Date: September 2, 2010

Fred G. Pruner, Jr., Reg. No. 40,779
TROP, PRUNER & HU, P.C.
1616 S. Voss Road, Suite 750
Houston, Texas 77057
713/468-8880 [Phone]
713/468-8883 [Fax]

CLAIMS APPENDIX

The claims on appeal are:

1. A system usable with a subsea well, comprising:

a riser extending from a platform adjacent an ocean surface towards an ocean bottom;

a landing string extending within the riser from the platform towards the ocean bottom; and

a line extending along at least part of a length of the landing string and including a distributed sensor system,

wherein the landing string extends in an interval within the riser from the platform toward the ocean bottom and the distributed sensor system is adapted to sense a parameter at various points along the interval.

2. The system of claim 1, wherein:

the landing string extends at least partially within a pressure control equipment at the ocean bottom; and

the line extends at least partially within the pressure control equipment.

3. The system of claim 1, wherein the line comprises a fiber optic line.

4. The system of claim 1, wherein the parameter measured is temperature.

5. The system of claim 4, wherein the distributed sensor system comprises a plurality of sensors distributed along the length of the line.

8. The system of claim 1, wherein the line is mechanically attached to the landing string.

9. The system of claim 3, further comprising:

a conduit located proximate the landing string; and

the fiber optic line located within the conduit.

10. The system of claim 9, wherein the conduit is within a control umbilical deployed as part of the landing string.

17. The system of claim 1, wherein:

the landing string is landed on a landing shoulder located on a pressure control equipment; and

the line extends below the landing shoulder.

18. The system of claim 17, wherein:

the landing string includes a passageway having a port above the landing shoulder and a port below the landing shoulder, each port providing communication to the exterior of the landing string; and

the line is extended below the landing shoulder by passing the line through the passageway and the ports past the landing shoulder.

19. The system of claim 18, wherein:

the line is a fiber optic line;

a conduit is located proximate the landing string and is aligned with the passageway port located above the landing shoulder; and

the fiber optic line is located within the conduit and is extended below the landing shoulder by passing the line through the passageway and the ports past the landing shoulder.

20. The system of claim 19, wherein the fiber optic line is deployed by pumping the fiber optic line through the conduit and passageway.

21. The system of claim 20, wherein:

a second conduit is aligned with the passageway port located below the landing shoulder;

the fiber optic line is located within the conduit, is extended below the landing shoulder by passing the line through the passageway and the ports past the landing shoulder, and extends within the second conduit; and

the fiber optic line is deployed by pumping the fiber optic line through the conduit, passageway, and second conduit.

28. A method usable with a subsea well, comprising:

deploying a landing string within a riser, the landing string and riser extending from a platform on an ocean surface towards an ocean bottom;

deploying a line along at least part of a length of the landing string, the line including a distributed sensor system; and

measuring the parameter at the various measurement points along the length of the landing string,

wherein the act of deploying the line along at least part of a length of the landing string comprises deploying the line along an interval of the landing string extending above the ocean bottom such that the distributed sensor system is adapted to sense a parameter at various points above the ocean bottom.

30. The method of claim 28, wherein the measuring step comprises measuring temperature at the various measurement points along the length of the landing string.

31. The method of claim 30, wherein the line comprises a fiber optic line and the measuring step comprises transmitting light through the fiber optic line and analyzing the returned back-scattered light to provide a complete temperature profile along the length of the fiber line.

36. The method of claim 28, wherein:

the deploying the landing string step comprises landing out the landing string at a landing shoulder located on a pressure control equipment; and

the deploying the line step comprises extending the line below the landing shoulder.

57. The system of claim 1, wherein the landing string is in communication with a well formation.

59. The method of claim 28, wherein the landing string is in communication with a well formation.

60. The system of claim 1, wherein the line is attached to the riser.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.